

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004557**Date Inspected:** 04-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1800**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung Fu-Kuan**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Deviation and Jacking Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the Tower and West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector traveled to the shop to observe the scheduled work performed on the casting stem and rib on the Tower Saddle identified as T1-1. The weld build-up was performed on the casting ribs which were identified as 7Y-5U-1, 7Y-5U-3, 7Y-9U-2 and 7Y-9U-3 utilizing the Welding Procedure Specification (WPS) SJ-3012-1-1. The WPS was also used by the Intertek Testing Service (ITS) Quality Control (QC) Inspector Chung Fu-Kuan as a reference during QC verification of the Alternating Current (AC) welding parameters. The SMAW process was performed by the following JSW welding personnel; Kato Ryota ID 07-4510, Yoshita Nakano 08-2011, Taksuya Naitoh ID 71-2736, Kei Nakasato ID 91-2247 and Kazuya Iwamoto ID 07-4366. The tower saddle was positioned so that the performance of the welding was in the flat position with the work in the horizontal plane and the weld metal deposited from above.

The 5.0 diameter consumable utilized by the JSW welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as LB52-A which appeared to comply with the AWS Specification A5.1 and the AWS Electrode Classification E7016.

Later in the shift this QA inspector observed, at random intervals, the QC inspector performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector also noted the Magnetic Particle Testing (MPT) performed on the weld access holes at the rib

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casting to the structural steel rib connection on the West Deviation Saddle identified as W2E1. The testing was performed at the area of the weld extension plates which were removed and ground to a bright metal. The continuous MPT was performed by Nikko Inspection Services (NIS) technician Kazuya Kobayashi utilizing the AC Yoke, Type A-6 testing unit manufactured by Eishin Kagaku Co., Ltd. The testing was conducted utilizing the JSW procedure identified as SF-MT-01.

The QA inspector also observed the build-up repair welding of the casting on the West Deviation Saddle identified as W2E1. The welding was performed on the rib identified as 1-15. The welder, Morohashi Satoshi ID 91-2255, utilized the SMAW process as per the Welding Procedure Specification (WPS) SJ-3026-2 which was also used by JSW Welding Engineer Tomio Imai during the verification of the AC welding parameters.

The consumable utilized appeared to be a Hobart Brothers Product identified as LB-106, with the diameter size of 5.0 mm and appeared to comply with the AWS Specification A5.5 and AWS Electrode Classification E10018-G. The welding was performed in the horizontal (2G) position with work in the vertical plane and the axis of the weld horizontal.

Fabrication Shop # 2

At approximately 13:30 hours the QA inspector performed material verification of four (4) individual plates as requested by JSW personnel Hideaki Kon. At the conclusion of the material verification and a random dimensional check the plates appeared to comply with the American Standard Testing of Materials (ASTM) A709M Gr. 345 ZT and the JSW cut sheet. It appears that the material will be utilized for stiffener plates on the Tower Saddles. The QA inspector issued the Lot # B83-043-08 for tracking purposes.

The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators were utilized during the verification of the heat control. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Chung Fu-Kuan and JSW Welding Engineer Tomio Imai appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

See Weld Joints in Progress Inspected on page 3 of this report in regards to QA observation of the welding parameters recorded during this shift and the digital photographs which illustrates the observations of the activities performed on this date.

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Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	7Y-5U-1	SJ-3012-1-1	C. Fu-Kuan	250 AC	24.5 AC	154mm/mm	180 Degrees C.	Ryota
2	7Y-5U-3	SJ-3012-1-1	C. Fu-Kuan	254 AC	23.5 AC	158mm/m	187 Degrees C.	Nakano
3	7Y-9U-2	SJ-3012-1-1	C. Fu-Kuan	186 AC	24 AC	141mm/m	200 Degrees C.	Kei
4	7Y-9U-3	SJ-3012-1-1	C. Fu-Kuan	182 AC	25 AC	139mm/m	195 Degrees C.	Kazuya
5	1-15, Rib Build-Up	SJ-3026-2	T. Imai, ASME	204 AC	23.5 AC	180mm/m	185 Degrees C.	Morohashi

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Lanz,Joe

QA Reviewer